R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

SUPPORT FOR THE CLAIM AMENDMENTS

Support for the claim amendments may be found in the specification, for example, on page 8 line 16-page 9 line 13 and FIG. 2 as originally filed, and claims 21 and 25 as previously presented. Thus, no new matter has been added.

OBJECTION TO THE CLAIMS

The objection to claims 13-16 under 37 CFR 1.75(c) is respectfully traversed and should be withdrawn. 37 CFR 1.126 states that the original number of the claims must be preserved throughout the prosecution until the application is ready for allowance. As such, claims 13-16 should remain numbered 13-16 during prosecution.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 1, 10, 11 and 21-25 under 35 U.S.C. §103(a) as being unpatentable over Hanami et al., Japanese Patent Application Pub 2000-308064 (hereafter Hanami) relying on and citing corresponding US Pat. No. '965 for translation, in view

of Official Notice has been obviated in part by amendment, is respectfully traversed in part, and should be withdrawn.

The rejection of claims 2, 4-6 and 20 under 35 U.S.C. §103(a) as being unpatentable over Hanami and Official Notice in view of Arcoleo et al. '645 (hereafter Arcoleo) has been obviated by amendment and should be withdrawn.

The rejection of claims 7, 9, 13-16 and 19 under 35 U.S.C. §103(a) as being unpatentable over Hanami and Official Notice in view of Topper, European Patent Application Pub. 1,143,712, has been obviated by amendment and should be withdrawn.

Hanami concerns a motion vector detecting apparatus (title). Arcoleo concerns a random access memory having independent read port and write port and process for writing and reading from same (title). Topper concerns a method and apparatus for calculating motion vectors (title). Official Notice is taken of the "equivalence of determining an offset relative to any point in a given image for their use in measuring additional relative distances from said point."

Claim 1 provides that (i) the first offset comprises a small offset generated from a still region of the current image and (ii) the second offset comprises a large offset generated from a moving region of the current image. The Office Action cites column 11 lines 26-50 of Hanami in the rejection (of previous claim 21):

FIG. 12 shows search area allocation for the motion detecting units in the case where a picture of interest is a

bi-directionally predictive picture (B picture). As shown in FIG. 12, search areas SA1 and SA3 for motion detecting units MD#1 and MD#3 are used in combination, whereas search area SA2 for motion detecting unit MD#2 is used singly. To search area SA1 of motion detecting unit MD#1, a motion vector search range horizontally from -64 to -1 is allocated. To search area SA3, the search range horizontally from 0 to +63 is allocated. To search area SA2 of motion detecting unit MD#2, a motion vector search range horizontally from -32 to +31 is allocated. Search areas SA1 and SA3 are used to detect a motion vector for a reference picture more distant in time. When the picture is distant in time, a large degree of motion is expected, and thus, a motion vector is searched over a wide area. In contrast, search area SA2 is used to detect a motion vector for a reference picture that is closer in time. If the picture is close in time, the degree of motion is small, so that the motion vector is searched according to the fine search method within a relatively narrow search area. Search areas SA1 and SA3 each have a wide range, and coarse search is performed therein. Note that all the search areas SA1, SA2 and SA3 have vertically the same motion vector search range from -32 to +31.

The above text appears to discuss expanding the search range as the reference frame becomes more distant in time. However, expanding the search range does not appear to account for (i) generating a small offset from a still region of the current image or (ii) generating a large offset from a moving region of the current image. In general, Hanami appears to be silent regarding offsets generated from still regions and/or moving regions. Hanami simply does not appear to make any such measurements. Therefore, Hanami and Official Notice, alone or in combination, do not appear to teach or suggest that (i) the first offset comprises a small offset generated from a still region of the current image and (ii) the second offset comprises a large offset generated from a moving region of the current image, as presently claimed. Claims 11 and

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20 have been amended to contain similar language. As such, the claimed invention is fully patentable over the cited reference and the rejections should be withdrawn.

Claim 6 is independently patentable over the cited references. Claim 6 further provides both (from claim 5) a write control circuit configured to generate a write address to write to the search memory and (from claim 6) an internal read control circuit configured to generate a second read address to read from the search memory. In contrast, column 15 lines 51-55 and FIG. 18 of Hanami appear to teach a different structure than as claimed. Hanami teaches that a Buffer Memory Read Control Circuit 55f generates a single address for both reads and writes. In contrast, claim 6 provides two circuits generating two address signals, one for reads and another for writes. One of ordinary skill in the art would not consider the single circuit generating the single signal in Hanami to teach or suggest two claimed circuits generating two claimed signals. Therefore, Hanami, Official Notice and Arcoleo, alone or in combination, do not appear to teach or suggest both a write control circuit configured to generate a write address to write to the search memory and an internal read control circuit configured to generate a second read address to read from the search memory, as presently claimed. As such, claim 6 is fully patentable over the cited references and the rejection should be withdrawn.

Claim 16 is independently patentable over the cited references. Claim 16 further provides overwriting some of the first reference samples with a plurality of fourth reference samples copied from the memory and generating a fourth motion vector corresponding to a third current block of the current image by searching among the fourth reference samples, the third reference samples and at least a second portion of the first reference samples. In contrast, all of Hanami, Official Notice and Topper appear to be silent regarding a motion vector search spanning three different sets of reference samples copied from a memory and a set of last reference samples partially overwriting a set of initial reference samples. Therefore, Hanami, Official Notice and Topper, alone or in combination, do not appear to teach or suggest overwriting some of the first reference samples with a plurality of fourth reference samples copied from the memory and generating a fourth motion vector corresponding to a third current block of the current image by searching among the fourth reference samples, the third reference samples and at least a second portion of the first reference samples, as presently claimed. As such, claim 16 is fully patentable over the cited references and the rejection should be withdrawn.

Claims 2, 4-7, 9, 10, 13-16, 19 and 21-25 depend from claims 1 and 11, which are now believed to be allowable. As such,

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the dependent claims are fully patentable over the cited references and the rejections should be withdrawn.

SHOWING UNDER 37 CFR §1.116

After a final rejection, an amendment canceling claims may be made (37 CFR §1.116(b)(1)). Also, an amendment touching the merits of the application may be admitted upon a showing of good and sufficient reasons why the amendment is necessary and was not earlier presented (37 CFR §1.116(b)(3)). The amendments presented herein either cancel claims or are necessary to rebut the new ground of rejection presented for the first time in the final Office Action. The amendments rebutting the new ground of rejection would not reasonably have been presented earlier because the reference forming the basis for the new ground of rejection was first present on the record in the final Office Action.

Furthermore, the amendments to the independent claims involve incorporating subject matter from the cancelled dependent claims and, therefore, are believed to better focus, if not remove issues for appeal, or require only a cursory review by the Examiner in conjunction with the arguments presented to rebut the rejections of the dependent claims. As such, the amendments presented herein are believed to be compliant with the showing requirement under 37 CFR §1.116(b)(3) and Applicants respectfully request that the amendments be admitted.
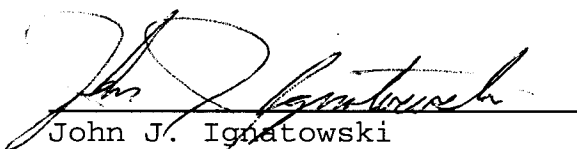
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Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicants' representative between the hours of 9 a.m. and 5 p.m. ET at 586-498-0670 should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge Deposit Account No. 12-2252.

Respectfully submitted,

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c/o Lloyd Sadler
LSI Corporation

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